

## **Visualizing and Controlling Picometric Quantum Ripples in Molecules**

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Coherent control is based on manipulation of quantum phases of wave functions. It is a basic scheme of controlling a variety of quantum systems from simple atoms to nanostructures with possible applications to novel quantum technologies such as bond-selective chemistry and quantum computation. We have developed a high-precision wave-packet interferometry by stabilizing the relative quantum phase of two molecular wave packets on the attosecond time scale [1-4]. We have also succeeded in visualizing such wave-packet interference in real time [5]. Our high-precision quantum interferometry has so far been applied to fundamental tests of quantum mechanics and molecule-based information processing [1, 2, 6].

### References:

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